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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

CHANG, VICTOR S

ART UNIT PAPER NUMBER

1771

DATE MAILED: 02/10/2004

db

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,885

Applicant(s)

LIU ET AL.

Examiner

Victor S Chang

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 53, 55, 67 and 75-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 53, 55, 67 and 75-92 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The Examiner has carefully considered Applicants' amendments and remarks filed on 12/8/2003. Applicants' amendments to claims 1, 4, 53, 55, 75 and 80-90, cancellation of claims 5-11, 54, 66, 68-70, and newly added claims 91-92 have all been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Rejections not maintained are withdrawn. In particular, Applicants' newly amended claims and arguments (Remarks, page 7) are sufficient to overcome the rejection under 35 U.S.C. 112, second paragraph, in section 4 of Paper No. 0827. Nevertheless, with respect to Applicants' contention that "Applicants have set forth very specific definitions for phrases ... Applicants' Application, page 1, lines 27-33" (Remarks, page 7, paragraph 5), it should be noted that although the claims are interpreted in light of the Specification, limitations from the Specification are not read into the claims. See *In re Van Geuns*, 988 f.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Response to Amendment

4. Claims 1-4, 53, 55, 67 and 75-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brinker et al. (US 5858457), substantially for the reasons set forth in sections 5 and 6 of Paper No. 0827, together with the following additional observations.

With respect to Applicants' argument that "It is well known to those skilled in the art that lack of a dehydroxylation step would indicate that the films of Brinker do not have stable dielectric constants in humid environments after the processing of the film is completed." (Remarks, page 8, paragraph 3), the Examiner notes that the product-by-process step "dehydroxylation" is not recited in independent claims 1, 53 and 55. Further, with respect to newly amended independent claim 75, which recites "A surfactant-templated dehydroxylated mesoporous dielectric film" in the preamble, the Examiner repeats (see Advisory, Paper No. 111903, section 3) that Applicants fail to provide any sort of evidentiary support that the "dehydroxylation step" provides stable dielectric constants in humid environments. It should be noted that product-by-process claims are product claims and that to be limiting in a product claim, a process limitation must be evidenced as effecting the structure or chemistry of the resultant product over the prior art. Further, the burden of proof for this showing is on Applicant after the Examiner presents an otherwise *prima facie* rejection. See MPEP § 2113. Additionally, the Examiner notes that although Applicants stated that supporting affidavits with regards to dehydroxylation will be provided under separate cover (Remarks, page 8, paragraph 5), no such affidavit has been received.

With respect to Applicants' response arguing that "the stability definition set in claim 1 is not shown, taught nor suggested by Brinker" (Remarks, page 8, paragraph 4), the Examiner notes that although Brinker is silent about the stability of the silica film, since the prior known art taught by Brinker's is essentially the same as the instantly claimed invention, in the absence of unexpected results, it is believed that the stability of

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the silica films are either inherently disclosed, or an obvious optimization to one skilled in the art. It should be noted that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. See MPEP § 2112.01.

With respect to applicants' question that "Applicants are not sure they understand the Examiner's point, as the spin coating and the film dimensions claimed relate to the thickness of the film, not its dielectric constant" (Remarks, page 9, second full paragraph), the Examiner repeats (see Paper No. 0827, page 5) that it is old and well known that spin-coating generally produces thin coating with extremely high thickness uniformity. Additionally, the Examiner notes that the well-known in the art statement in the prior Office action is now taken to be admitted prior art because Applicant either failed to traverse the Examiner's assertion of official notice or that the traverse was inadequate. It should be noted that to adequately traverse such a finding, Applicant must specifically point out the supposed errors in the Examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See MPEP § 2144.03.C.

With respect to Applicants' argument that "Brinker is attempting to achieve highly ordered films, while these claims are directed to claims with a disordered porosity." (Remarks, page 9, bottom paragraph), the Examiner repeats (see Paper No. 0827, page 6) that Brinker's teachings encompass both ordered and disordered porosity. In Fig. 8, Brinker shows the X-ray diffraction (XRD) of the film samples before and after

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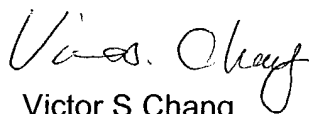
calcination at 400°C. Brinker also teaches that the film order as judged by the intensity and FWHM of the $2\theta=2.4^\circ$ peak depends strongly on the pre-conditioning RH, with the greatest order achieved at 60% RH (column 10, lines 24-29). As such, Brinker's teaching includes the range of the disordered porosity of the instant claimed invention, and it is known art that the order of the porosity can be modified over a wide range by modifying the RH during calcinations. It should be noted that the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. See MPEP § 2112.

For newly added claims 91 and 92, Brinker teaches that $\text{Si}(\text{OC}_2\text{H}_5)$ is used to prepare the precursor sol (column 12, lines 7-8).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.


Victor S Chang
Examiner
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